



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,255	08/27/2003	Yoshihisa Suda	053466-0366	5217

22428 7590 03/13/2006

FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

FASTOVSKY, LEONID M

ART UNIT	PAPER NUMBER
----------	--------------

3742

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,255

Applicant(s)

SUDA ET AL.

Examiner

Leonid M. Fastovsky

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 12-13, 16 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsubishi Pensil CO (JP11242984).

Mitsubishi teaches a carbon heater inherently comprising a carbon, inherently acting as a good conductor and comprising a boron nitride, the boron nitride is blended-dispersed in the carbon along two different directions and therefore is uniformly dispersed (Title and Abstract).

Claim 13 is a product-by-process claim, and the product itself does not depend on the process of making it. See MPEP 2113.

As for claim 16, Mitsubishi's carbon heating element is formed in non-oxidizing atmosphere that is equivalent to inert gas (Abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3742

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Yasuda (JP59219886).

Mitsubishi discloses the carbon heater inherently acting as a good conductor and boron nitride blended- dispersed in the carbon, but does not disclose explicitly a carbon powder. Yasuda discloses a heater comprising a carbon powder It would have been obvious to one having ordinary skill in the art to modify Kawada's heater to include a carbon powder as taught by Yasuda in order to provide high efficiency heater (Title).

5. Claims 17-23 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Sotodani et al (JP09007955).

Mitsubishi discloses substantially the claimed invention, but does not disclose a specific resistivity. Sotodani discloses a carbon heater 16 having a specific resistance between 4000 to 4400 microohm-cm (Abstract). It would have been obvious to one having ordinary skill in the art to modify Mitsubishi's heater having specific resistivity in a range as taught by Sotodani in order to meet specific needs of the user.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Jones (3,817,735).

Mitsubishi discloses substantially the claimed invention, but is silent regarding the heater having a rectangular cross-section. Jones discloses a carbon heater comprising bars 79 each bar is of rectangular cross-section (col. 3, lines 20-35 and 65-70). It would

have been obvious to one having ordinary skill in the art to modify Mitsubishi's invention to include the carbon heater having a rectangular cross-section as taught by Jones in order to have a shape of the heater determined by the user having a desired result in mind.

7. Claims 24-25 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Jones and further in view of Konishi et al (6,143,238).

Mitsubishi in view of Jones discloses substantially the claimed invention, but is silent regarding the heater having a metalloid. Konishi discloses a carbon heater 1 comprising a heating element 10 and comprising a metallic carbon silicide (col. 3, lines 25-38). It would have been obvious to one having ordinary skill in the art to modify the invention of Kawada in view and Jones to include the carbon heater having a metalloid as taught by Konishi in order to ensure is a conductivity - inhibiting qualities of the heater as necessary as desired by the user.

8. Claims 26 - 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Kawakubo et al.

Mitsubishi discloses substantially the claimed invention, but does not disclose a method of making a carbon heating element by firing including chloride and furan. Kawakubo discloses a method of making a carbon product by firing organic substances such as polyvinyl chloride and furan resin. It would have been obvious to one having ordinary skill in the art to modify Mitsubishi's invention to include the method of making the carbon product as taught by Kawakubo because they disclose all structure elements of the invention and are capable of so perform.

As for claim 27, yield of carbonization of organic substances in the method of making the carbon heater would be at least 5% since the resulting carbonization is the result of the firing process, such the result would have been an inherent result of the process done in the prior art as well.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

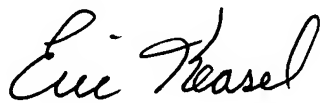
Response to Arguments

10. Applicant's arguments with respect to claims 12 - 28 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M. Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Eric Keasel
Primary Examiner
TC 3700

lmf



Leonid M Fastovsky
Examiner
Art Unit 3742

3/6/06